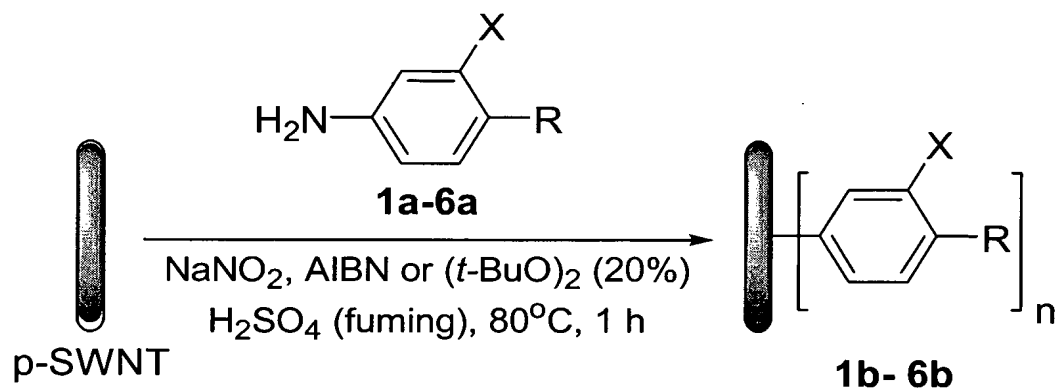


Scheme 1



1a. R = H, X = H to **1b.** R = SO₃H, X = H

2a. R = NO₂, X = H to **2b.** R = NO₂, X = SO₃H

3a. R = Cl, X = H to **3b.** R = Cl, X = SO₃H

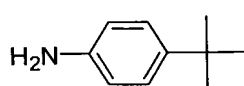
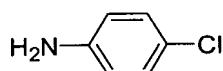
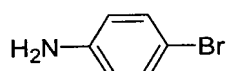
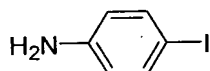
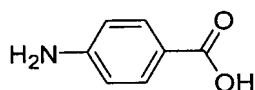
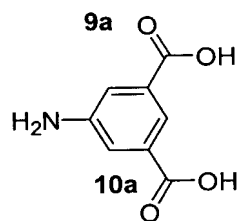
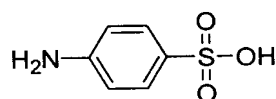
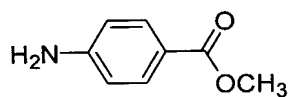
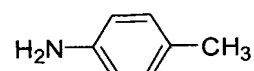
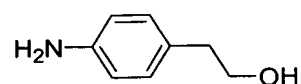
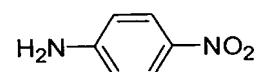
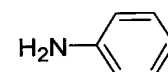
4a. R = *t*-butyl, X = H to **4b.** R = *t*-butyl, X = H and SO₃H (~1:1)^a

5a. R = CH₂CH₂OH, X = H to **5b.** R = CH₂CH₂OH, X = SO₃H^b

6a. R = SO₃H, X = H to **6b.** R = SO₃H, X = H

Fig. 1

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**4a****3a****7a****8a****9a****10a****6a****11a****12a****5a****2a****1a****Fig. 2**

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Scheme 2

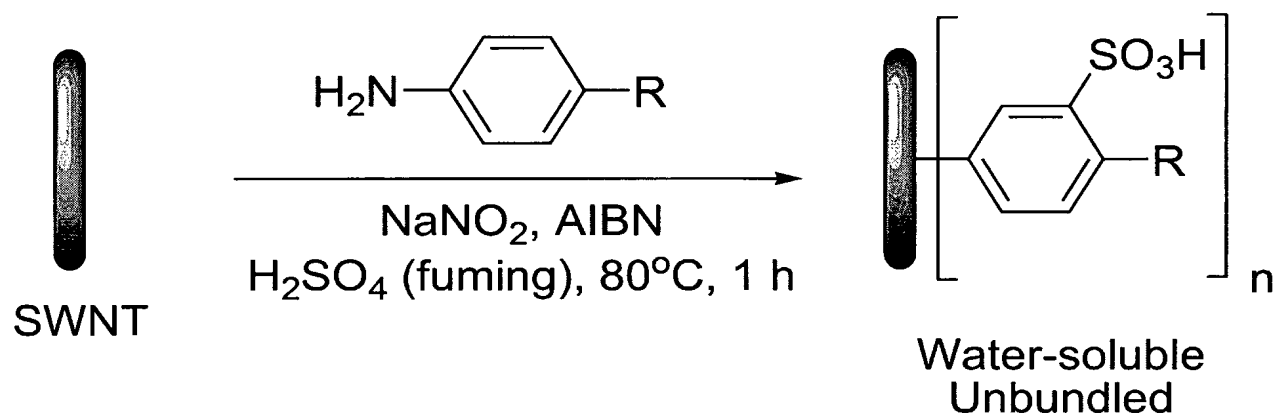


Fig. 3

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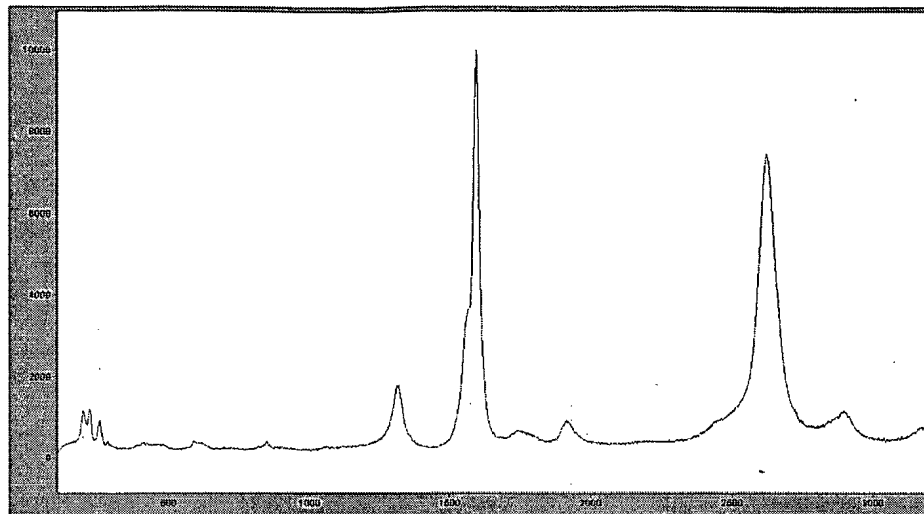


Fig. 4

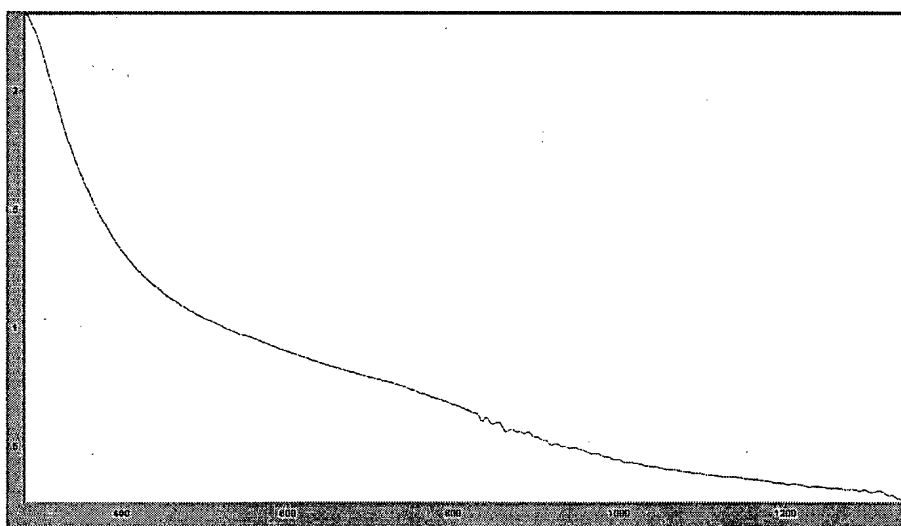


Fig. 5

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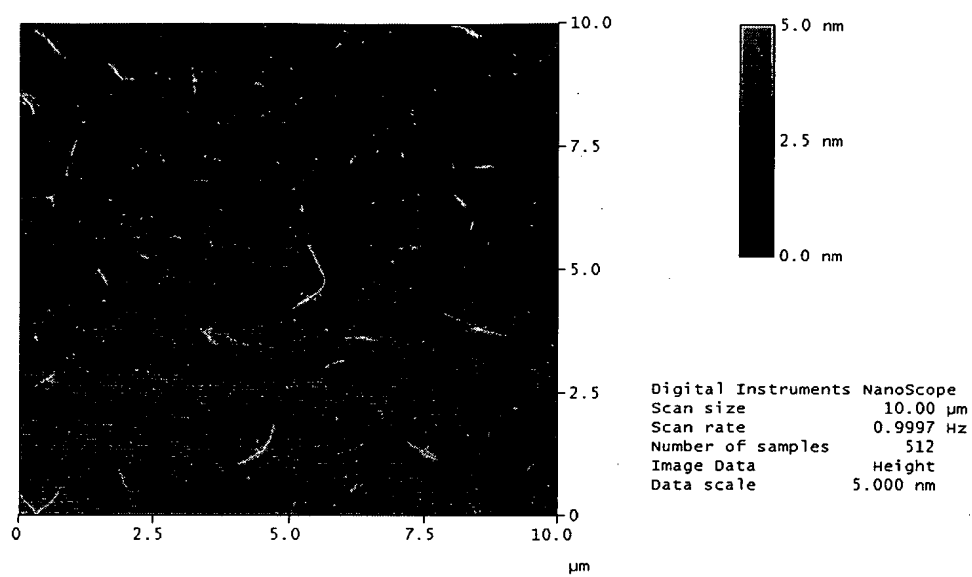


Fig. 6

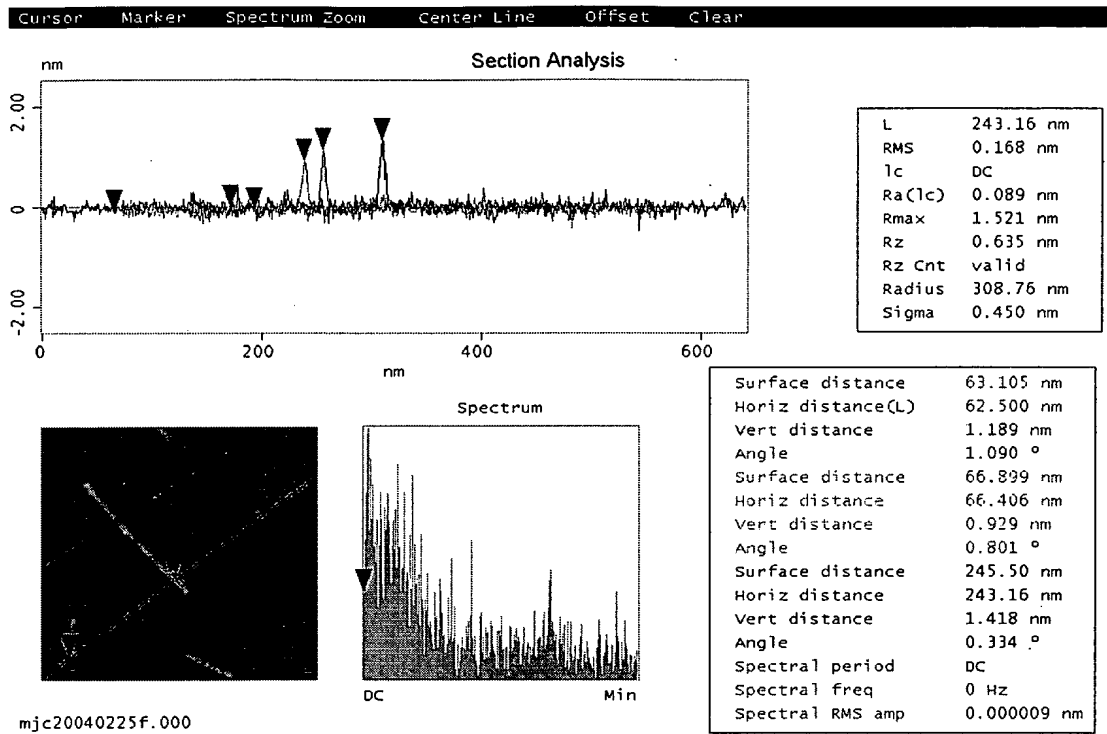


Fig. 7

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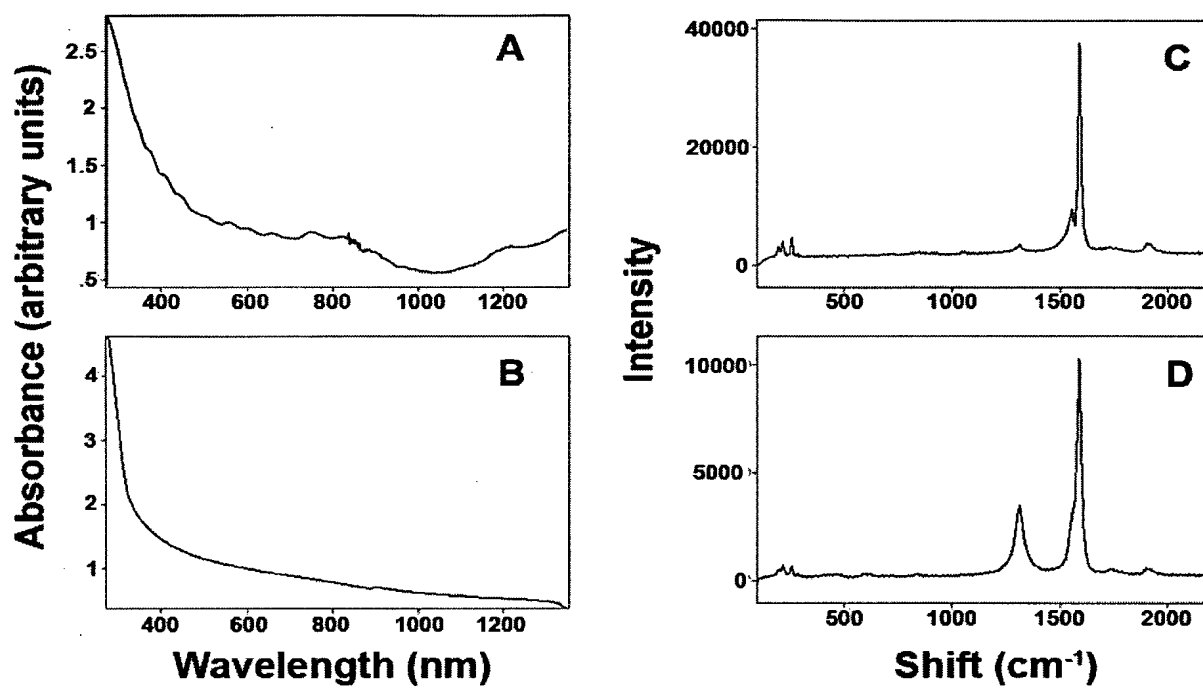


Fig. 8

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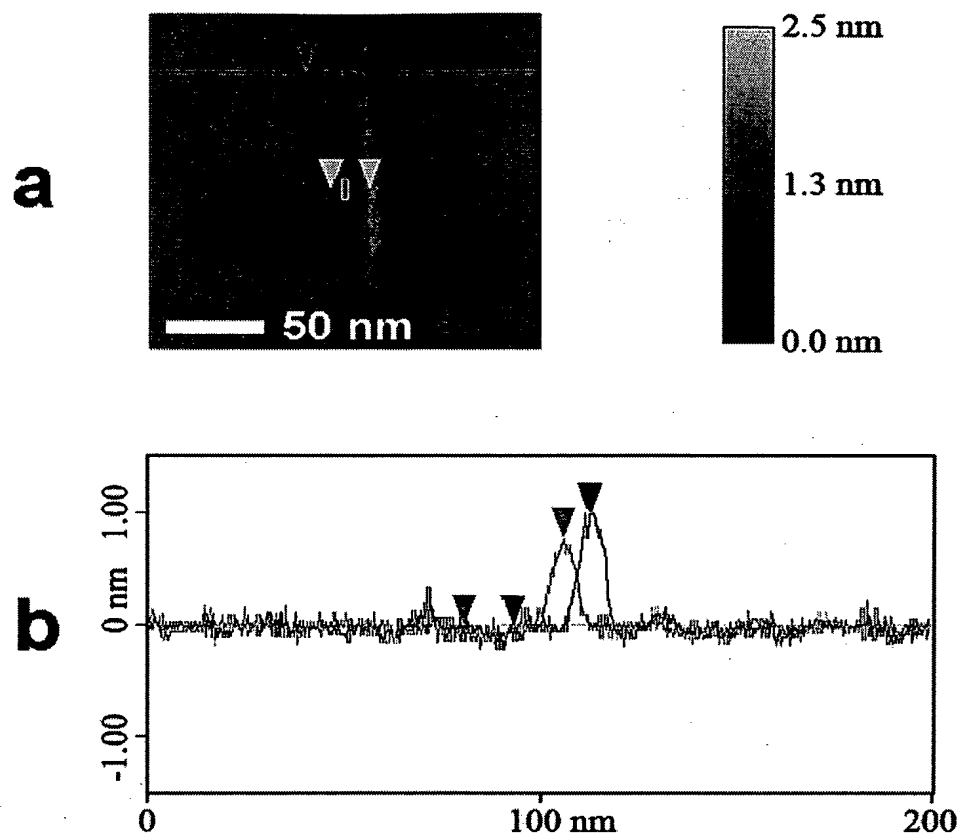


Fig. 9

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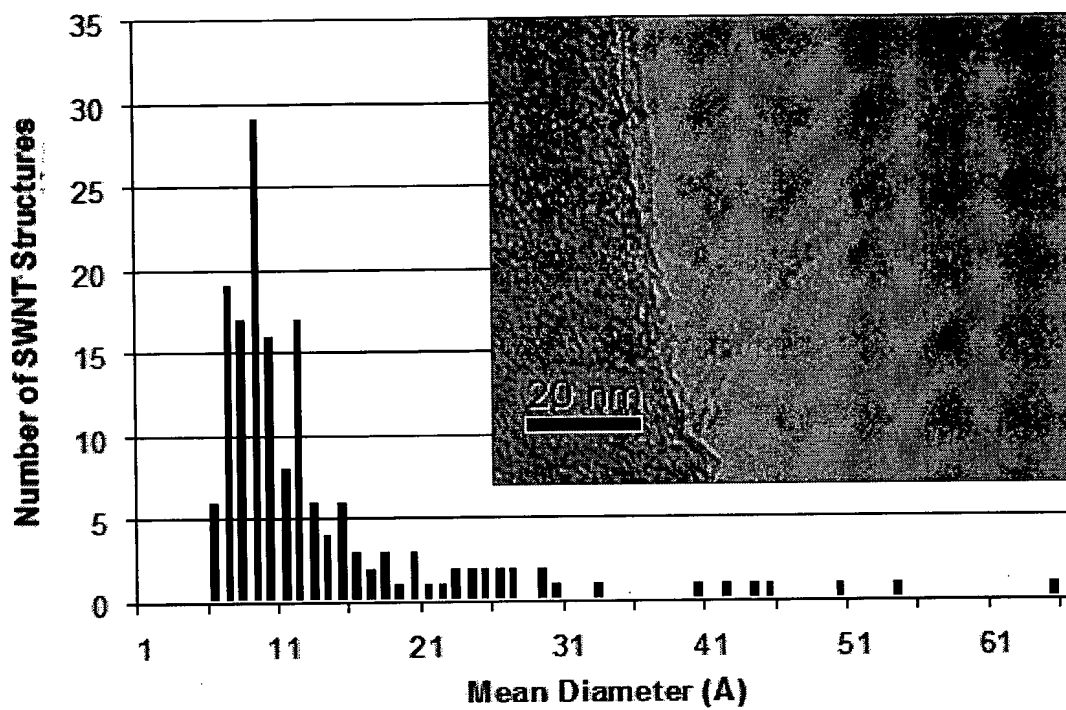


Fig. 10

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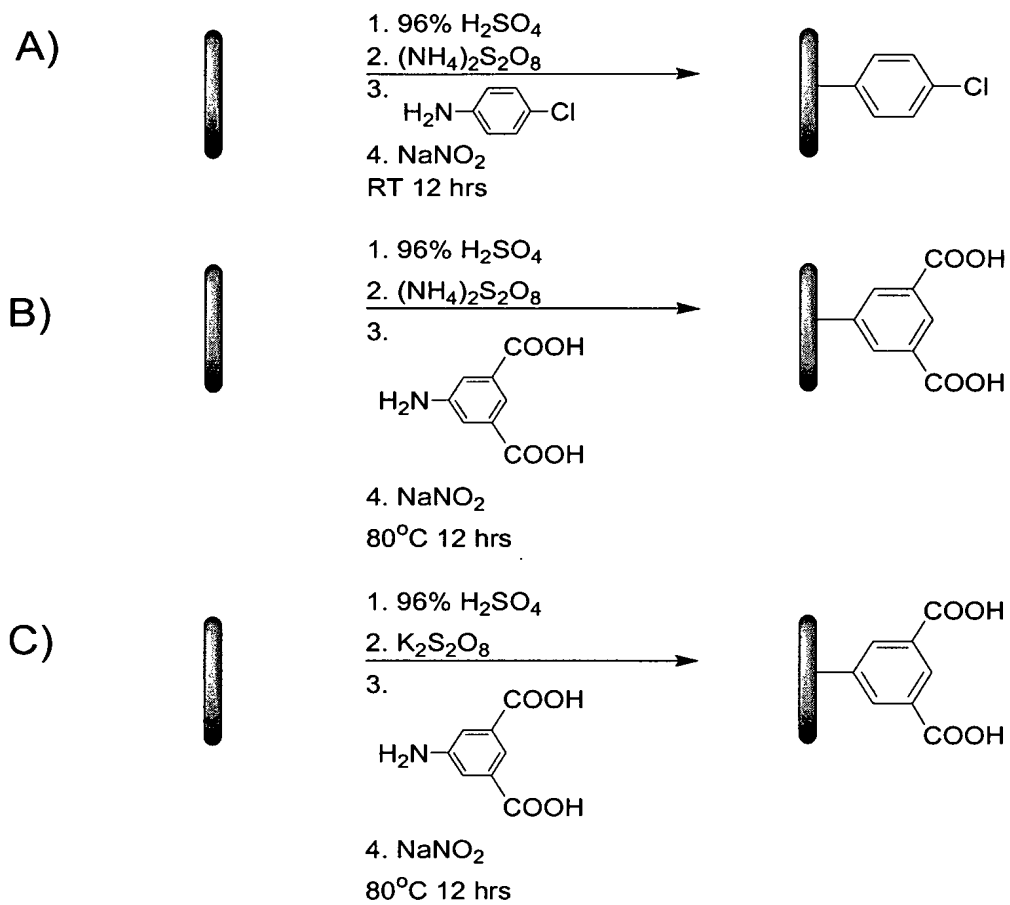
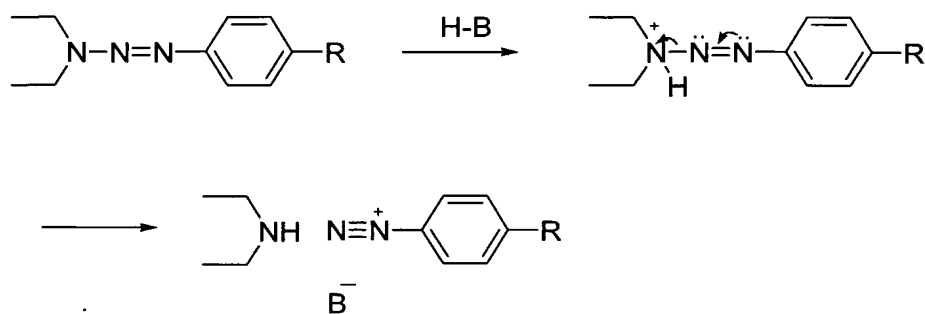


Fig. 11

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Scheme 3



H-B = Acidic Media

Fig. 12

Scheme 4

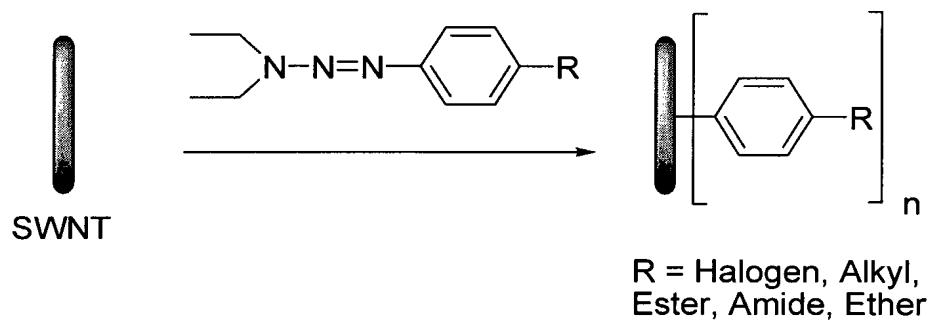


Fig. 13